FADCA>BEACON

THE FLORIDA AMATEUR DIGITAL COMMUNICATIONS ASSOCIATION Newsletter

Vol. 1, No. 8 Brandon, Florida August 1984

FADCA is a non-profit organization for research, development, education, and public service

NEWS AND VIEWS Gwyn Reedy, W1BEL
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(813) 689-3355

"Back in the saddle again" said the editor. There is a lot happening in Florida packet radio and it is exciting to report it. Time flies when you're having fun at the wordprocessor.

Several changes in the BEACON this month. A photographically reduced dual column format to improve readability and lower printing costs. Further experimentation is probably in order. Please send in your comments on the format. More operating news and local area happenings. That kind of material must be generated by the participants and I solicit your inputs. There is no planned reduction in technical content, just an increase in news. I've included some "on the air" items such as beacons and packet bulletin board messages in the form in which they were captured. Perhaps this can help add some flavor of packet operating for newcomers.

A great source of information is now available to FADCA through PRNET as is documented elsewhere in this issue. We are also building contacts in the packet community with whom we exchange information. A FADCA member has been providing dumps of material from Compuserve Hamnet. Please contribute your local activities, successes and failures, plans, ideas, etc. because other people enjoy reading about them. Also need the specifics of other packet voice nets in the state.

The ARRL has begun publishing a packet newsletter (entitled GATEWAY) and lengthy extracts are contained in this BEACON. The publishers are on the FADCA>BEACON complimentary mailing list, so your contributions to the BEACON are also inputs to the GATEWAY. The newsletter is very good and I strongly recommend it to you.

The Melbourne Hamfest on September 8th and 9th will be the scene of a FADCA packet demonstration and dinner meeting. Plan to attend; Saturday if you make it one day only. Details about the demonstration and dinner will be available at the hamfest. Guaranteed to be over by 10 PM for those with a distance to drive.

FADCA VOICE NETS

REGIONAL: 3958 KHz Sunday at 8 AM. NCS-K4NTA
LOCAL: Brandon - 147.165 (+6) MHz Sunday at 7:30 PM. NCS is KF4EF
Brevard Co.-147.060 (+6) MHz Sunday 8 PM. NCS is N2WX
Orlando - 147.285 (+6) MHz Sunday at 9 PM. NCS is K4AHO
STATEWIDE PACKET FREQUENCY: 145.010

Net report for July 1984
KF4EF net control on 147.165 Sunday evenings at 7:30 P.M.

1. Fifty-two check-ins for this month.

2. One interesting check-in was WD4BIW at the N4JBK QTH in Jacksonville. Bob was asking directions around his TNC and how to get down into the Orlando area.

Would like to have all you "Big Guns" roll in here on Sunday evenings.

3. We are averaging a shade over 10 check-ins per week. An increase would be very welcome. Check in whether or not you have an interest in digital communications. Say howdy if nothing else.

4. If you have something for the Tampa area net call me at (813)831-9925 or leave me a message in the K4NTA mail-box under KF4EF.

73..Pat

==========

FADCA will conduct a packet seminar at the Clearwater Hamfest in November. More details next month. Request information about other hamfest opportunities to present the packet story.

I enjoyed participating in the packet meteor scatter activity during the Persieds. My equipment was not up to par, but with the guidance of K4GFG, I was able to lose a lot of sleep and copy one packet from KA0FTT on two meters. I will be raady to go on six meters for the Geminids, if not sooner. The path length from Tampa to Maryland is 25 % shorter than that from Tampa to Iowa, so effort will be put into working that direction as well as continuing the long haul to the midwest.

The FCC is entertaining (or should I say encouraging?) proposals for diverting the lower 2 MHz of 220 to commercial uses. By the time you read this the deadline for comment will be past, but keep an ear open for additional bureaucratic maneuverings to which you should make a response. 220 is very important to packet activity because of its wide bandwidth and lack of power restrictions.

The following is an advertisement seen in a military magazine by W4APV:

LET E-SYSTEMS CONVERT YOUR RADIO NET TO AN AUTOMATIC PACKET DATA SYSTEM

Now, your existing tactical radios can become the backbone of a secure integrated voice/data network without regard to line-of-sight limitations....The key to this new capability is E-Systems Packet Applique device that turns virtually any field radio into a data switching node. And this added capability in no way interferes with the voice mission functions of the radio itself. In operation, each Packet Applique serves as a discriminating multirouting networking system so that the message gets through, across any terrain, around any obstruction and beyond any horizon. The system also verifies 100 percent of each packet transmission, repeating the transmission until one of the Packet Applique units receives and verifies the package, then relays it up the line. Within a few milliseconds the message is pacaketized and reassembled. The process is totally transparent to sending, relaying and receiving nodes.....For...a demonstraition of this breakthrough in tactical voice and data communications capabilities.....

Wonder if they sell for $250 in kit form?

The organizing meeting of the Central Florida Packet Association was held August 22 with the following people in attendance: K4AHO/Jim, KF4WM/Jack, WD4BMN/Larry, W0RAO/Ed, WA4GIF/Butch. It was agreed to create 10 charter member positions which would be open to organizations as well as individuals. A building fund was started at the same time. Equipment requirements were discussed and the GLB TNC was selected. Meetings will be called as necessary. Interested parties please contact Jim Diggs/K4AHO.

I will be proposing a formal organizational scheme for FADCA in next month's BEACON. Stay tuned.

WD4BMN>BEACON:====LARRY-----IN--ALTAMONTE---SPRINGS-------********

K4AHO>BEACON:---JIM---ORLANDO, FLA... Auto Mailbox Operational!!!
Connect via wd4bmn,k4nta-1

K4NTA>BEACON:de K4NTA/R via K4NTA-1/R Stuart, FL. The Stuart FADCA SOUTHNET BBS is on line. 00/00/00 02:20:00

This message is reprinted from the K4NTA Bulletin Board.

Msg : 1244 Sec. 0 - GENERAL
Date : 08/25/84 21:10:16
To : ALL (R)
From : N2WX
Subj : digipeater as monitor

The South Brevard digipeater, N2WX-7, now has a callsign monitor. To access it, use the following format:
a) set UNPROTO ssss VIA ddd,ddd,ddd
The ddd's are digipeaters u would use AS IF U WERE TRYING TO CONNECT TO N2WX-7, ssss is anything (CQ,QST,etc.)
b) go into CONV mode
c) type /MLBLOG and hit return...the log will follow if it doesnt get clobbered-remember, u are NOT connecting -- u will see a beacon-like frame in response.

EXAMPLE: (From Stuart)
[cmd:] UNPROTO FADCA V K4NTA-1<cr>
[cmd:] CONV <cr>
/MLBLOG <cr>

(From Orlando)
[cmd:] U WHATEVER <cr>
[cmd:] CONV <cr>
/MLBLOG <cr>

Any comments or suggestions on this or new functions I welcome! please!!
73 Howie

(C RE T):

```
/mlblog
N2WX-7>W1BEL: N2WX/R hrd
W1BEL -0
KF4WM -0 N2WX  -1
K4AHO -0 N2WX  -7
K4NTA -0

/mlblog
N2WX-7>W1BEL: N2WX/R hrd
W1BEL -0
N2WX  -1 K4NTA -0
KF4WM -0 K4AHO -0
N2WX  -7
```

COMMENTS ON THE TAPR TNC TUNING INDICATOR IN THE JUNE ISUE OF PACKET STATUS REGISTER
Ray Dreschel, KK4S

It's great! Technically does what it is supposed to do - aid tuning in packet signals on non-FM modes.

Esthetically, the ever changing LEDs let you see whats going on in the XR-2211. I suspect that with continual use and observation of the LED patterns, more operating parameters will become observable e.g. signal stability, etc.

Difficulty - none. Easy to build and all parts except the LM3914 are available from Radio Shack.

I recommend you try it. You will like it.

BYTES FROM THE WRITE ONLY MEMORY

Ted Huf, K4NTA
Stuart, Florida 33494 - (305) 692-0728

Gwyn, W1BEL will be picking up the editing and publishing chores of the newsletter for a while. I want to thank all of you for all the support that you have given me while Gwyn has been away. It has been quite a job, but one that I have enjoyed doing. In the past eight months we have seen packet radio grow in Florida from only a hand full of Beta Test TNC boards to what it is now. We have five dedicated digipeaters, four bulletin board systems and are planning the high speed network that will link everything together. The newest digipeater is N2WX-7 in Melbourne through the hard work of Howie, N2WX and Dave, K3AAX. It is at a good site and should provide a good link into Orlando and the Cape area from K4NTA-1 in Stuart. The TNC for N2WX-7 is a Xerox 820 Big Board computer using digipeater software written by N2WX and has some special features not found on most digipeaters.

We were at the Jacksonville Hamfest this month. Our guest was Lyle Johnson, Pres. of TAPR. Lyle manned the FADCA booth with us giving demostrations of packet radio and sold the ten kits that he brought with him by early Sunday morning. Lyle also conducted the Packet Radio Forum with a standing room only crowd. A big thanks to Lyle for all his help. FADCA had a dinner meeting hosted by Dick, W4PCM. We had 30 present and a great time was had by all. We owe a big thanks to Dick and Jack, KB4B for all the work that they did getting things set up for us.

While at the hamfest, I had a nice talk with Bill DeSha, KE4VY. Bill is the State RACES officer and said he is interested in packet radio for emergency communications in the State of Florida.

Along the lines of emergency communications, on July 31st a special demostration and test was conducted. At the request of the Martin County Public Safety Dept, we set up a packet station in the Martin County EOC. Other stations were at the St. Lucie, Palm Beachand Dade County EOC's and the National Hurricane Center in Miami. With officals looking on, we passed traffic on packet between all of these stations. It went very well and was a big success. We did learn that there needs to be a standard message format for packet traffic and that printers and message buffers are a must. As a direct result of the demo, I was told this week that Martin County is ordering a TAPR TNC and new two meter rig for the EOC. Thanks to WD4BRF, W2KGV, K4ZK, W4SS, W4PHL, WA4HXZ, K4GFG, KI4T and WD4JKM for making the test a success.

There has been concern that the Florida Repeater Council might not coordinate packet radio frequencies because they are simplex. It is very important that we be coordinated because of resent FCC actions where there has been interference compaints and one of the stations ws not coordinated. I am please to announce that as the result of a meeting that I had in Jacksonville with Tom King, WD4ILH of FRC, we will be coordinated. I will be working with Tom on this over the next few weeks and will keep everyone posted.

I like to think back to 18 months ago when UPS dumped a box of Beta Test TNC Boards on my door step. I rembember staying up all night working with George WD4BRF tring to make a connection across town and the thrill when I saw on my screen *** CONNECTED TO WD4BRF! I also remember back about a year ago when Gwyn W1BEL called me on the phone to tell me that he heard my CW ID in Brandon, 130 miles across the state. This lead to me taking my packet gear to a friends house who has a 170 watt amp and good beam. The first cross state contact was make that night, but 1200 baud was unreliable so we slowed down to 600 baud. Soon after this we put K4NTA-1 in service. We have come a long was in a short time.

REFLECTIONS ON METEOR SCATTER

Tom Kneisel K4GFG
1600 S.W. 115 Ave., Davie, Fla 33325

After reading Rich Zwirko's article in the July BEACON, I couldn't resist firing up the KW to zap some of those August Perseids. For those of you who would like to improve the odds somewhat, I would recommend the following protocol when running packet M/S schedules. It basically follows the protocol in use by most SSB/CW stations who work M/S. Assume that I am trying to work K1HTV:

WHEN I RECEIVE	I SEND
--	K1HTV
K1HTV>K4GFG:	K1HTV-2
K1HTV>K4GFG-3:	S2R
K1HTV>S3R:	RR
K1HTV>RR:	SK73

As you may have guessed, I am using the unconnected mode of operation, and specifying not only the callsign but also the signal report information in the PROTO callsign field. By setting MON ON and MFROM K1HTV, I will see the display shown at the left. First I load K1HTV into the destination callsign field using the U[NPROTO] K1HTV command. After copying calls from him, I change the U field to include his call plus signal report: U K1HTV-2. Meteor scatter operators typically use S1, S2, or S3 to indicate the quality of the bursts, and we can specify a number using the SSID extender. Upon copying a packet from K1HTV with a signal report (SSID extender), I should roger that report, so I load S2R into the destination callsign field using: U S2R. (Try it, it works!) Upon receiving a roger from K1HTV, I stop sending signal reports, and send RR using the same technique. I know when he has received my roger when he stops sending signal reports and sends RR as well. The SK73 is optional;

I may stop sending at that point. I don't need to send any text since the address fields carry all the information needed. To improve my chances of being heard by the other station when the meteor burst comes along, I send packets consisting of only a single carriage return... holding down the carriage return and the repeat button on my CRT terminal. The input buffer queues up these short packets and keys my transmitter continuously while sending contiguous packets. I recommend sending for 30 second intervals (my TNC times out at 40 seconds). One station should transmit during the first 30 seconds of each minute, and the other station transmit during the last 30 seconds of each minute. If you are going to work 144 Mhz packet M/S, you had better come prepared with Olympic endurance! During 1.5 hours of morning schedules with K1HTV, I heard numerous bursts, but none printed. The culprit in this case may have been QRN on this end. A 90 minute schedule in the wee hours of Saturday morning with KA0FTT in St. Louis yielded 12 packets on one fine burst, then another 4 packets nearly an hour later on a weaker burst. A Sunday morning sked yielded 6 pings in 1.5 hours, but no packets printed. A half hour sked with W5XO in Texas later that morning yielded 4 bursts, but only one packet printed. No complete exchanges resulted. I was running about 400 watts to a KLM 13 element yagi, and the other stations each had at least 100 watts and yagis as well. By the way, for anyone contemplating serious M/S work the classic April 1957 QST article by Walter Bain is required reading. My observations were that many of the 144 Mhz bursts were long enough for packets to get through (many were 5 - 8 seconds), but that those overdense bursts lacked the signal strength to yield copyable packets. Certainly on SSB or CW they would have been quite intelligible. Another 10 dB would have improved things remarkably! On the Texas path there was a lot of rapid QSB which may have contributed to loss of data within packets. Elsewhere in thi issue is a report of completed packet M/S qso's on both 6 and 2 meters. My congratulations to W0RPK! I think that 6 meters is the place for packet M/S since the bursts will be longer and stronger. Nevertheless I can field a better signal on 2 meters so I think I will crank in another couple hundred watts and maybe a second 13 element yagi next time. Geminid schedule anyone?

!!!!! A N N O U N C E M E N T !!!!!

Tucson Amateur Packet Radio (TAPR), an international Amateur packet radio research and development group based in Tucson, Arizona, is proud to announce the opening of its office, effective Monday, 20 August 1984!

The office address is:

Tucson Amateur Packet Radio
1016 East Pennsylvania Avenue
Suite 302
Tucson AZ 85714

The mailing address remains:

Tucson Amateur Packet Radio
P.O. Box 22888
Tucson AZ 85734-2888

The telephone number is:

(602) 746-1166

The office hours are:

9:00 AM - 5:30 PM (Mountain Standard Time)
Monday - Friday

The gentle voice at the TAPR end of the line belongs to Karen Makus. Karen is a non-technical person, so please don't ask her ow to write a terminal program for your packet station! However, in her role as Office Manager, she will do everything she can to expedite servicing your information requests, providing spare parts support for your TAPR TNC, filling orders and the like.

Technical questions will be routed to volunteer staff for answering, so please mail such questions to the TAPR PO Box.

It is our goal to provide 48 hour (or faster) turnaround on all standard transactions (memberships, renewals, TNC and parts requests, general information needs, etc.) and faster service on non-standard ones.

We at TAPR wish to thank you for your continued support, and look forward to being of greater service to you through our new facility.

There are no more "Dayton" boxes available.

The following is a transcript of a message read from the K4NTA Packet Bulletin Board.

```
Logging on W1BEL VIA K4NTA-1
You are caller # 1927
Logging W1BEL at 07:53:56 on 08/26/84
The FADCA 75 Meter net meets on 3958 at 0800
Sundays.
End of bulletins
Last on : 08/26/84
High Msg.: 1247
System contains 118 message(s),
 1 to 1248
Command (? for HELP):rn
Msg  : 1248   Sec. 0 - GENERAL
Date : 08/26/84 07:48:15
To   : ALL
From : W1BEL
Subj : PRNET
```

I am now authorized to serve as a gateway for FADCA to/from PRNET. PRNET is a communications service on a mainframe computer and is accessed by landline. The major groups in packet radio are all represented (now that FADCA is involved). I will be putting notices of interest on this BBS as I obtain them and will collect appropriate items from this BBS to send out on PRNET. I

expect to have a BBS running in Brandon soon, and that will serve as the primary transfer point for PRNET, with Ted's BBS as a backup. All BBS sysops are welcomed and encouraged to transfer the PRNET material to their systems for the convenience of their users.

(C RE T) (D=Delete): c
Command (? for HELP): e
Log-in time : 07:53:58
Present time: 07:56:13
Total time : 00:02:15
*** DISCONNECTED

==========

MSG#:A17506
TO: SS
FROM: PRNET PE
SENT: 26 AUG 84 04:13:00
READ: 26 AUG 84 13:55:46

Gwyn:

Welcome to PRNET! Glad to have you on board, the files that follow are a sample of the activity on here for the last few weeks, stay in touch and my best to the Packet Gang in Florida!

Pete

==========

Posted: Sun Aug 19, 1984 7:01 PM GMT
Msg: IGIE-1878-7654
From: RDUNBAR
To: docs
Subj: 820 Comp Video

COMPOSITE VIDEO, SYNC TIMING CORRECTION
for the XEROX 820

W0PN 8/19/84

ADD COMPOSITE VIDEO OUTPUT:

Composite video may easily be provided without adding any active circuitry to the 820 board by installing the following modification:

1. Remove R58 (150 ohms) located near pin 7 of J1.
2. Remove R60 (150 ohms) located between U106 & U117 near U105 PIO.
3. Cut trace from U117-10 near the pin (bottom of board).
4. Solder a 39 ohm resistor (use spaghetti) between U117-10 (on wiring side of board) and the right hand hole from which R60 was removed. (The hole you want goes to J7-5).
5. Using one lead of a 100 ohm resistor, jumper J7-3,4,5 together. Wrap the other lead of the resistor back around (use spaghetti) and solder to J7-10 (gnd).
6. HSYNC polarity must be reversed by cutting the trace to U15-4 (on top of the board) between that pin and the adjacent feedthru. Route a jumper (bottom of board) from the feedthru to U15-13.
7. Add a 470uf 10volt electrolytic from +5 to gnd near the power connector. This will help kill some of those strange spikes which can adversely affect your keyboard if you're running it from the same +5 supply.

These steps provide you Composite Video on J7-3,4,5; ground is on pins J7-8,9,10. If your monitor has a DC coupled input, you may wish to couple the video thru a 100 uf capacitor to prevent DC loading of the output which creates a shift of the 'black' level.

CORRECTION OF HSYNC & VSYNC TIMING:

Check your sync pulse lengths..HSYNC should be 5.0 usec, VSYNC should be 400 usec. On my boards, they were 40us and 175us, respectively.

1. Change R10 from 180k to 24k. (HSYNC)
2. Change R11 from 47k to 82k. (VSYNC)

73, W0PN

==========

MSG#:A17509
TO: SS
FROM: PRNET PE
SENT: 26 AUG 84 04:28:16
READ: 26 AUG 84 15:21:32

To: All
Fm: Jeff Ward
Re: Gateway: The ARRL Packet Newsletter

The next message contains the first edition of the ARRL Packet-Radio Newsltter -- "Gateway." Distribute it as you see fit, and please report to me any feedback that you hear. Many people will be getting the newsletter in the mail early next week.

I presume that everyone on PRNET will have seen most of the items in the newsletter. However, I am sure that there are many interested packeteers who have not seen these items.

Additions to the net listing and the club listing are solicited. Of course any news on packet activity or ongoing development projects will also be (very) welcome.

Jeff

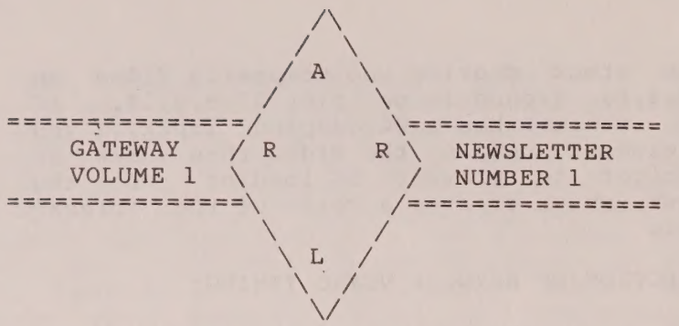
==========

To: ALL
Fm: Jeff Ward
Re:Gateway Forwarding

The packet-radio newsletter, Gateway, can and should be forwarded to any other networks were there is interest in packet radio. The ARRL must make back what money is put into Gateway, but dissemination of information is more important (for the time-being).

I would not be unhappy if those people who regularly get the newsletter electronicaly were to make some "contribution" to Gateway. Barring that unlikely event, I would at least like to get an approximation of how many folks are actually reading the newsletter. If anyone can figure out how to keep tabs on the electronic readers, give me an idea.

73 Jeff



August 15, 1984

Gateway: The ARRL Packet Radio Newsletter is published by the

American Radio Relay League
225 Main Street
Newington, CT 06111

Jeff W. Ward, K8KA
Editor

Subscriptions are available to ARRL members and nonmembers, at the following rates:

For 25 issues of Gateway:
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Nonmember $9.00
In U.S., Canada, and Mexico by First Class
ARRL Member $11.00
Nonmember $14.00
Elsewhere by Airmail
ARRL Member $14.00
Nonmember $17.00.

Prices are subject to change without notice. Remittance must be in U.S. funds, and checks must be drawn on a bank in the U.S.GATEWAY: The ARRL Packet-Radio Newsletter

WELCOME

Welcome to Gateway, the ARRL packet-radio newsletter. Some of you reading this are deeply involved in amateur packet radio, some of you are just getting started on this exciting new mode, and some of you aren't quite sure what "packet radio" is. We hope that Gateway will have something to offer each of you.

WHAT IS A "GATEWAY?"

A gateway is a station that links two communications networks. In amateur packet radio, gateway stations are being used communicate between VHF and HF networks, and between VHF networks and satellite channels. Eventually, users of local VHF networks will use gateways to connect to an international packet-radio network. We have called this newsletter Gateway because we hope that it will, like a gateway station, facilitate communications between amateurs interested in packet radio.

Gateway will not be a technical newsletter; there are already several fine packet-radio newsletters covering technical issues. This will be a "news" newsletter. At ARRL Headquarters we have many sources of news not all of which are available to each of you. This newsletter will bring together notes from these sources. Overseas and domestic packet-radio club newsletters, the FCC, the IARU, on-line conferences and on-the-air bulletin boards will contribute. You may see items that you've seen elsewhere, but you should also see things that are new and interesting.

Some of you are receiving this packet-radio newsletter and have never even considered what packet radio can do for you, or what fun you could have on packet. We hope to provide you with an overview of the state of amateur packet radio, explaining what is being done and what can be done on this new mode.

It seems as though every packet-radio club is undertaking some project that will advance amateur packet radio. To make these projects fruitful, we must make the most of the limited resources available to amateurs. By telling a large audience about various packet-radio development efforts, Gateway should help organizers direct their efforts, and help volunteers find the groups that need them.

Perhaps when there is a worldwide amateur packet-radio network there will be no need for packet-radio newsletters. Until then, we hope that Gateway informs and interests you.

PACKET METEOR SCATTER

Last weekend's Persieds meteor shower provided a good opportunity to experiment with packet-radio meteor-scatter operation. Rich Zwirko, K1HTV, set forth some experimental guidelines, and stations throughout the U.S. attempted MS QSOs.

On August 1, well before the peak of the Persieds, WØRPK, the station of the Central Iowa Technical Society, held schedules with Bob Carpenter, W3OTC, in Maryland. The skeds were on 6 meters. Bob received about 2% of the packets sent from Iowa. Four nights later, again on 6 meters, W3OTC and WØRPK had what is believed to be the first amateur packet-radio meteor-scatter QSO.

As the Persieds approached, stations tried their luck on the 2-meter band. Stations in the East included K1HTV; Vern Riportella, WA2LQQ; Tom Clark, W3IWI; Hank Oredson, WØRLI; and Mark Wilson, AA2Z. In the West were Ralph Wallio, WØRPK; Bob McCaffrey, KØCY; Ron Dunbar, WØPN; Mike McQuiston, WAØWYW; Bob Schiers, NØAN; and Terry Van Benschoten, WØVB. Several of these stations copied beacons and connect requests via MS. On the morning of August 12, during the peak of the shower, WØRPK and K1HTV completed the first packet

MS QSO on 2 meters. Congratulations are in order for all stations involved in these tests, and I hope that I haven't left anyone out.

These tests were performed at 1200 bauds, using AFSK FM. While it was necesary to use this mode in order to include as many stations as possible in the experients, a performance sacrifice was made. We should organize further tests at higher transmission rates with more efficient modulation techniques.

220 MHz and PACKET RADIO

The 220-MHz band is crucial to packet radio for a couple of reasons. Because it is the lowest frequency band on which we can exceed 19,600 bauds, it is going to be used for the initial high-speed intercity linking. It is not being used for any satellite up-links or downlinks, and so it is essential for full-duplex teleport stations. With these considerations in mind, we note the following:

The Tri-State Amateur Repeater Council has coordinated a 100-kHz channel from 220.5 MHz to 220.6 MHz for wideband digital communications. This council coordinates VHF frequencies in northern New Jersey, southwestern New York (including Long Island) and Connecticut. This paves the way for EASTNET linking to begin as soon as hardware and software are ready.

On the negative side are two petitions for rule making which threaten the 220-MHz amateur band. The first is RM-4829 from the Land Mobile Communications Council. This petition calls for the FCC "to explore the potential use of the vacant spectrum in the UHF TV bands, spectrum allocated for Fedral Government use, or assignments from the band 220-225 MHz to satisfy the requirements of land mobile users." This may sound worse than it is, since the petition goes on to say "Because of the limited number ofnd will provide, however, it is not anticipated that this spectrum can meet the immediate requirements of land mobile licensees."

Another petition (RM 4831), from a manufacturer of amplitude compandored sideband equipment, explicitly requests reallocation of the band 216-225 MHz. This petition poses a serious threat to the 220-MHz amateur band.

Packet radio needs the 220-MHz band. Be sure to read these petitions and send your comments to the FCC. The comment proceduorial departments.

CMD:UNPROTO FADCA V K4NTA-1, WA4ARE-1, WD4JKM, WA4ARE-1, K4NTA-1

W1BEL>BEACON Propagation check:Brandon-Stuart-W Palm Beach-Miami-W Palm Beach-Stuart-Brandon

AUTOMATIC RESET CIRCUIT FOR YOUR TNC

Many Packet Radio devotees have a desire to leave their TNC's On-Line all day and perhaps night in the unattended mode to act as a repeater, providing a data path for others. However, the system can not be monitored every minute it is on. The possibility of the TNC going off into never-never land is remote, but none the less possible. To leave your system unattended with confidence requires a way to monitor its operation and take necessary action should a fault occur. What is presented here is an inexpensive and reliable circuit which will monitor the TNC operation and reset it if needed.

The basic theory of this circuit is based on what the TNC is doing during its normal operation. The TNC is run by its own microcomputer which is constantly checking several inputs looking for data comming in. When it completes its check, the computer will start over again if no data has arrived.

If your TNC has software which supports a "Watchdog" pulse, you will notice that a nice square wave will be generated at some preselected address or data line as the computer goes thru the software loop. We can use this square wave as an indication of normal TNC operation. If the square waves stop, we can safely assume that the computer has gone off to never-never land and is in need of being reset to bring it back to the real world.

The circuit shown in Figure 1 monitors this square wave and provides a reset pulse to the TNC if it is required. Due to the many types of TNCs available today, I will not go into specifics of inter-facing. The circuit has one input and one output. The selected "Watchdog" address or data line is the input and the output is tied to the reset line of the TNC. That is all there is to it. Follow the schematic in Figure 1 during the discussion on circuit operation.

The square wave from the TNC is applied across C1 and R1 which act to couple the input waveform and provide DC isolation between the computer and reset circuit. CR1 and CR2 rectify the waveform to provide a DC voltage level which will either turn Q1 on or off. I must stop here for a moment to explain the operation of the 555 timer IC.

The 555 timer IC is configured for a monostable multi-vibrator (One Shot). The amount of time required for the IC to trigger is determind by the RC time constant of R2 and C3. This can be calculated by the formula, T = 1.1 x R x C, where T = time in seconds, R = resistance in ohms, and C = capacitance in farads. The circuit as shown in Figure 1 will require between 11 and 12 seconds to charge C3 to a point to where the 555 will trigger and set the output low.

By turning Q1 on and off, we can control the charging action of C3. When Q1 has a positive (V > .7 vdc) applied to its base, it is turned on in such a way as to saturate. This effectively places a ground on the collector of Q1 which in turn keeps C3 from charging. When Q1 has a negative (V < .7vdc) applied to its base, it will be turned off which allows C3 to charge.

If another positive pulse is not felt by Q1 before C3 is completely charged, the 555 will trigger and the output will go low to reset the TNC. A positive pulse in before this time will discharge C3 and the time constant will start again. Should the output go low, C4 and R3 will hold the low for about 1 second to allow a clean reset before the 555 resets itself to a high output.

To explain the other parts, C2 and C5 are simple bypass capacitors for noise and RFI. CR3 on the output causes the 555 to source the current for reset rather than sink it. This is a very simple and effective circuit for Packet Radio systems and well worth installing if you plan to leave it as an unattended repeater. By the way, there's more that can be done with a 555 timer IC that applies to Packet Radio, I'll tell you some other time. 73's.....

This circuit was inspired by Howie Goldstein, N2WX, designed by Dave Frey, K3AAX, and written by Jerry Quimby, N4AJH.

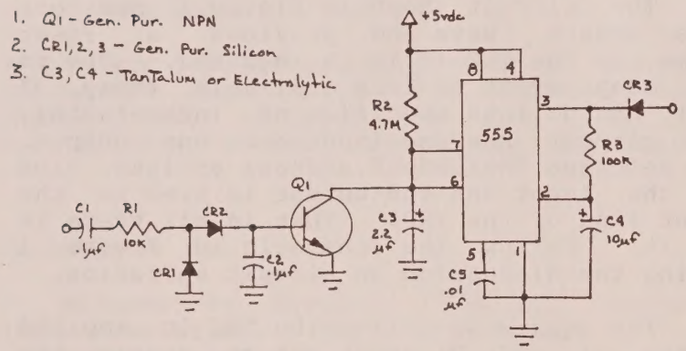


FIGURE 1

TNC STATUS MONITOR AND CONNECT ALERT CIRCUIT

The following circuit is used to monitor the status of the kit TNC and to provide a way to alert you that someone has connected with your TNC, or that you have successfully connected with someone elses TNC.

The control lines (PA0, PA1, & PA2) and the 5Vdc supply lines connect to the TNC via the Parallel User Port (J1). Refer to Page 6--8 in the TAPR manual for additional information.

The original design was given to me by Ray - WA6NVL, and certain changes were suggested by Chuck, W6MNO, and I made yet more changes. (Thanks Ray and Chuck!)

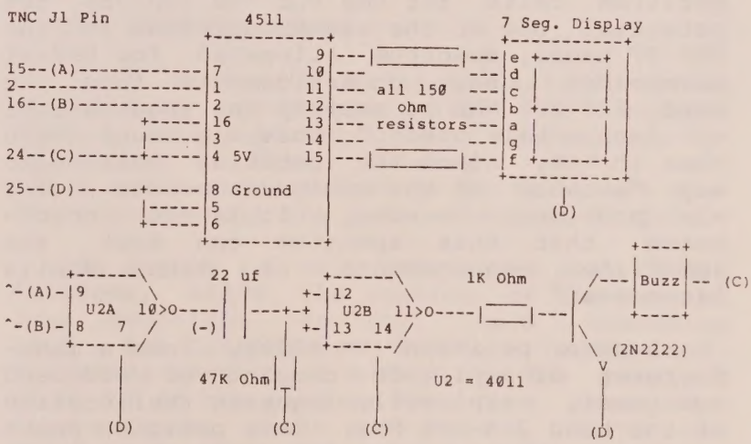
The Buzzer I used was a Radio Shack Piezo-electric tone generator (about $3.50). The length of the tone is adjustable by playing with the values of the 22uf capacitor and/or the 47K resistor. Using the values shown, the tone will stay on for about 2 seconds whenever anyone connects to you, or you connect to anyone (condition "5" on the display).

The following conditions are represented by the number shown on the display:

DISPLAY		LINK STATE
1	=	DISCONNECTED
2	=	CONNECT ATTEMPT IN PROGRESS
3	=	FRMR CONDITION DETECTED
4	=	DISCONNECT IN PROGRESS
5	=	CONNECTED

Anyway, I hope you enjoy this little gem. Oh, by the way, I built mine on a Radio Shack experimenter board (#276-162). It makes a good "playground" for this type of project. When (if?) I ever put my TNC in a box, I'll problem change the 7 seg. driver out for a BCD/DEC decoder such as the 4028 and drive LEDs instead of the display... I like lots of flashing lights!.

73's
Jonathan Kramer, KD6MR



(Pin 9 of U2A connects to point (A) on J1, Pin 8 of U2A connects to point (B) on J1, all points labeled (C) connect to pin 24 of J1 <+5Vdc>, and all points labeled (D) connect to the common ground on pin 25 of J1.)

K4NTA>BEACON The Stuart (Southnet) BBS is on line.

From: PHIL KDØEB
The following is a circuit that shows the CONNECT status of your TNC on remote LEDs. The parts needed are a 74145, two TRI-COLORED LEDs, four 330 ohm resistors, (kit only, 25 pin female plug). Optional: red LED & resistor for FRMR conditon, piezio electric beeper, switch, 1.8K resistor, and PNP switching transistor for alert circuit. The following shows where to connect wires between the parallel port on the kit or the 6520 on the beta board (or kit), to the 74145.

74145 pin	kit port pin	6520 pin	function
16	23	24	+5 volts
8	25	1	ground
15	15	2	PAØ to A input
14	2	3	PA1 to B input
13	16	4	PA2 to C input
12	25	1	D input to gnd

On the 74145, pull up pins 2, 3, 5, & 6 to +5 volts thru the 330 ohm resistors, then connect the two LEDs as follows:
LED1 flat to pin 3, other to pin 2,
LED2 flat to pin 6, other to pin 5.

If you want a CONNECT alert circuit (pager), connect the base of a PNP switching transistor to pin 6 of the 74145 thru a 1.8K resistor. The emitter thru a switch to +5 volts and the collector to the sonalert or a simulaler beeper, grounding the other side of the beeper.

How it works:
The 74145 is an open collector BCD to 1 of 10 decoder. The TNC provides a BCD encoded output from the parallel port that after decoding by the 74145 provides the following states:
Pin 2 active low = DISCONNECTED
Pin 3 active low = CONNECT in progress
Pin 4 active low = FRMR condition (optional LED and resistor)
Pin 5 active low = DISCONNECT in progress
Pin 6 active low = CONNECTED

LED1 is red on DISCONNECTED, green on CONN in progress.LED2 is green on CONNECTED, red on DISC in progress.

Comments or querys can be made to:
Phil Allbright, KDØEB, 3852 Neosho Ave.,
St. Louis, Mo. 63116
(an S.A.S.E. would be appreciated)

This is a partial list of packet stations in Florida:

K3AAX	DAVE	MELBOURNE
K4AHO	JIM	ORLANDO
N4AJH	JERRY	SATELLITE BCH
N4APC	BOB	SEBRING
WA4ARE	DGPTR	<-1D>W PALM BCH
KB4B	JACK*	JACKSONVILLE
W1BEL	GWYN	BRANDON
WD4BIW	BOB	JACKSONVILLE
WD4BMN	LARRY	ALTAMONTE SPGS
WD4BRF	GEORGE	STUART
K4CAJ	CECIL*	W PALM BCH
KC4DE	LEO*	MIAMI
WD0EEL	JIM	BOCA RATON
KF4EF	PAT	TAMPA
KA4EPS	LOU*	LAKE WORTH
KB4ES	PAUL*	NORTH MIAMI BCH
W4ESH	LEE*	NAPLES
WD4FAB	DICK*	ALTAMONTE SPGS
W4FQM	ED*	HOLLYWOOD
WB4FSG	ALTON ?*	JACKSONVILLE
K4GFG	TOM	DAVIE
WA4GIF	BUTCH	ORLANDO
WA4HXZ	HENRY	W PALM BCH
KF4I	LARRY	JENSEN BCH
WB9IVR	BILL*	MELBOURNE
WD4IXI	BILL	ST PETERSBURG
WA4IYY	CHARLIE	OKEECHOBEE
WD4JKM	BILL	MIAMI
WA1JOU	RON*	FT LAUDERDALE
NK4K	BILL	MIAMI
W2KGV	LADD	PT ST LUCIE
WB4KGY	DOUG	FT LAUDERDALE
KF4LG	BILL	BRANDON
WD4LHF	JAMES	<B>W PALM BCH
WD4MBL	RENE	MIAMI
K4NTA	TED	<-1D><-0B>STUART
W4NVU	DADE EOC	<D>MIAMI
WA4NWO	JOE	POMPANO BCH
W4ORA	JIM	TAMPA
W4PCM	DICK*	JACKSONVILLE
W4PHL	PB EOC	W PALM BCH
KE4PM	LARRY	AVON PARK
WB4QJP	GEORGE*	OKEECHOBEE
W0RAO	ED	CASSELBERRY
WB4RCY		<-1D>JACKSONVILLE
K4RHD	BILL	SEMINOLE
KK4S	RAY	SARASOTA
NJ4S	FRANK	MIAMI
WD4SFG	JOHN	MIAMI
KI4T	JOEL	MIAMI
KA4UTK	GEOFF	W PALM BCH
KE4VR	BOB	LAKE PARK
KA4VWW	GUY	STUART
KF4WM	JACK	ORLANDO
N2WX	HOWIE	<-1><-7D>PALM BAY
WB8ZPE	BRAD	BRANDON

FADCA>BEACON

FLORIDA AMATEUR DIGITAL COMMUNICATIONS ASSOCIATION MEMBERSHIP REQUEST

NAME---------- CALLSIGN----------LICENSE CLASS----------

ADDRESS----------

HOME TELEPHONE (----)---------- WORK TELEPHONE (----)----------

TO WHAT AMATEUR ORGANIZATIONS DO YOU BELONG ?----------

ARE YOU ON PACKET? AMTOR? RTTY? OTHER SPECIALIZED MODES? ----------

WHAT EQUIPMENT ARE YOU USING? ----------

WHAT SKILL OR SERVICE CAN YOU VOLUNTEER IN SUPPORT OF FADCA? ----------

COMMENTS AND SUGGESTIONS:----------

FLORIDA AMATEUR DIGITAL COMMUNICATIONS ASSOCIATION
812 Childers Loop, Brandon, FL 33511

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PM
AUG 31
1984

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